

Date:- 11/5/2020

GRADATION TEST OF G.S.B. Gr.I.....

Date Of Collection. 06.05.2020

Date of test 09.05.2020

Ref. (PIU) Vide L. No. 200/Enclosure/25.02.2020 of AE, RWD, WSD - Pupri.

Copy forwarded to - Executive Engineer
R.W.D., Works Division *Pupri.*

09/05/20
A.E.

22/7
25.8.20
E.E.

E.E.
वर्षापालक अभियन्ता
ग्रामीण कार्य विभाग
क्षेत्रीय प्रयोगशाला मुजफ्फरपुर

REGIONAL LABORATORY

R.W.D , MUZAFFARPUR

PHYSICAL & GRADATION TEST OF..... WBM Gr. III.....

Name of Work :- Construction of Road from Birauli Near Kirana Sah House to Dayal Tola under Pupri Block under MMGSY.

Name of Division:- R.W.D Works Division.....Pupri.....

Name Of Agency:- Pranav Kumar, Khabra, Muz. Date Of Collection /Receipt 06.05.20

Agreement No:- 63 SBD/2019-20

Date Of Test:- 09.05.2020.

Ref.....A.E.R.W.D Works Sub Div.....Pupri..... LT.NO. 200/Enclosure/.....DT. 25.02.2020.

PHYSICAL TEST

SL.NO	A.I.V		WATER ABSORPTION		REMARKS
	TEST VALUE%	REQUIRED LIMIT%	TEST VALUE%	REQUIRED LIMIT%	
1.	21.42 %	40 %	0.836 %	3 %	Permissible.

GRADATION TEST

SI. NO	Sieve No M.M	Weight Retained (KG)	% Wt of Retained	Cumulative % Retained	% of passing (KG)	Required limit%	Remarks
		CH - 70 M.					
		Wt. of Sample - 16.048 Kg.					
		Wt. of Screening - 3.129 "					
		Wt. of Stone Metal = 12.919 Kg.					
	63	NIL	NIL	NIL	100	100	
	53	0.521	4.03	4.03	95.97	95 - 100	
	45	2.026	15.68	19.71	80.29	65 - 90	
	22.4	8.974	69.46	89.17	10.83	0 - 10	
	11.2	1.308	10.12	99.29	0.71	0 - 5	
			/				

Memo No.....546.....Date 11/5/2020

Copy To:- E.E.R.W.D Works Div.....Pupri.....

21/5/20
09/05/20
LA

09/05/20
A.E

20/05/20
कार्यवाह E.E. विभाग
ग्रामीण कार्य विभाग
क्षेत्रीय प्रयोगशाला मुजफ्फरपुर



MS TEST HOUSE

....Substantial Testing for Quality Work

NABL ACCREDITED & ISO 9001:2015 CERTIFIED LABORATORY
(H.D. Office) Abhiyanta Nagar, Z-Sector Polt No.-09, Near R.J. Complex, Ashiana Nagar, Patna-800025
(B.R. Office) Raj Kumar Ganj, Near Poor Home, Darbhanga
Mobile no.: +91-900-6069-267, Email: - mstesthouse@gmail.com

TEST REPORT

Issued To:

Pranav Kumar

Adarsh Nagar Lane No-3 Near Railway Crossing-5 Khabra Muzaffarpur.

Description of Sample: Design Mix

Grade- M-30

Sub:- Mix Design of concrete for the construction of Road and CD works
With Maintenance for Birauli Near Kirana Sah House to Dayal Tola
Under MMGSY.

Ref.No. Dated: 14.01.2020

Report No: MSTH-150120110

Date of Receipt 15.01.2020

Date of Testing: 16.01.20-13.02.20

Date of Report: 14.02.2020

Protocol: IS10262:2009, IS 456:2000

1.	Grade of Concrete	M-30
2.	Characteristic Strength at 28 Days, N/mm ²	30.0 N/mm ²
3.	Targeted Strength at 28 Days, N/mm ²	38.25 N/mm ²
4.	Degree of Quality Control	Good
5.	Exposure Condition	Moderate
6.	Slump required	(75-125) mm
7.	Maximum size of Aggregate	20 mm
8.	Type of Cement	OPC- 43 grade (Birlagold)
9.	Minimum Cement Content	320.0 Kg/m ³ (As per IS 456)
10.	Type of Admixture	Sikkament
11.	Source of Material	
(a)	Aggregate (10 mm & 20 mm)	Mirzachowki
(b)	Fine Aggregate, (Sand)	Koilwar

Test data of ingredients of Cement

1.(i)	Compressive Strength of Cement at 3 Days, N/mm ²	22.7	N/mm ²
(ii)	Compressive Strength of Cement at 7 Days, N/mm ²	28.5	
(iii)	Compressive Strength of Cement at 28 Days, N/mm ²	42.5	

		Cement	Fine Aggregate	Coarse Aggregate		Admixture
				20 mm	10mm	
2.	Fineness, m ² /kg	250	-	-	-	-
3.	Setting Time, minute	-	-	-	-	-
(a)	Initial	145	-	-	-	-
(b)	Final	245	-	-	-	-
4.	Specific Gravity	3.15	2.60	2.70	2.68	1.14
5.	Bulk Density, g/cc	-	1.65	1.52	1.54	-
6.	Water Absorption, %	-	1.27	0.42	0.43	-
7.	Moisture Content, %	-	0.97	Nil	Nil	-
8.	Silt Content, % (by vol.)	-	4.2	-	-	-

Authorized Signatory

- Sample as received in the Laboratory by Agency.
- Result listed refer only to the tested sample & applicable parameters. Endorsement of product is neither inferred nor implied.
- Sample will destroyed after one month from the date of issue of test certificates unless otherwise specified.
- Liability of Laboratory is limited to the invoiced amount only any dispute arising out of this report shall be subject of Bihar Jurisdiction only.
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(B.R. Office) Raj Kumar Ganj, Near Poor Home, Darbhanga
Mobile no.: +91-900-6069-267, Email: - mstesthouse@gmail.com

TEST REPORT

9.	Sieve Analysis Material Passing Through IS Sieve	Fine Aggregate	Coarse Aggregate		Mix Ratio of Coarse Aggregate
			20 mm	10 mm	60:40
	40 mm	100	100	100	100
	20 mm	100	95.5	100	97.3
	12.5 mm	100	-	100	-
	10 mm	100	9.6	90.8	42.1
	4.75 mm	97.2	1.5	10.5	5.1
	2.36 mm	90.5	-	2.0	-
	1.18 mm	81.7	-	-	-
	600 micron	69.1	-	-	-
	300 micron	21.9	-	-	-
	150 micron	8.0	-	-	-

10.	Gradation of Fine Aggregate	Zone-III
11.	Gradation of Coarse Aggregate	Graded
12.	Mixed Ratio of Coarse Aggregate	60:40
13.	Water Cement, kg/m ³	0.47
14.	Cement Content, kg/m ³	408.0
15.	Workability (Slump), mm	(85±5)
16.	Admixture	1 %

17. Mixed Ratio of ingredients by weight (For 1m³, M-30)

Trial	Cement	Fine Aggregate	Coarse Aggregate		Water, Ltr	Admixture
			20 mm	10 mm		1%
1	420.0	679.0	630.0	420.0	202.0	4.20
2	415.0	701.0	624.0	416.0	199.0	4.15
3	408.0	694.0	643.0	429.0	192.0	4.08

Quantity of material for one bag of Cement (50 kg) is as follows:-

(a)	Cement	50.0 kg
(b)	Fine Aggregate	85.0 kg
(c)	Coarse Aggregate (20 mm)	78.9 kg
	Coarse Aggregate (10 mm)	52.6 kg
(d)	Water	23.5 ltr
(e)	Admixture	0.5 ltr

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TEST REPORT

A. Mix PROPORTIONS FOR TRIAL- No- III

Cement	408.0 kg/m ³
Water	192 kg/m ³
Fine Aggregate	694 kg/m ³
Coarse Aggregate	1072 kg/m ³
Water/ Cement	0.47

Ratio by wt.

Cement	1.0
Fine Aggregate	1.70
Coarse Aggregate	2.63
Water/ Cement	0.47

Compressive Strength of the above mix concrete:-

Compressive Strength of the above mix concrete:-				
DOC-16.01.2020			DOT-23.01.2020	
A	7 Days	Trial-1	28.4 N/mm ²	
		Trial-2	27.8 N/mm ²	
		Trial-3	28.5 N/mm ²	
DOC-16.01.2020			DOT-13.02.2020	
B	28 Days	Trial-1	39.7 N/mm ²	Slump (mm)
		Trial-2	40.3 N/mm ²	collapse
		Trial-3	40.5 N/mm ²	92
				83

Remarks: Trial -3 is recommended for the mix Proportion at the site for their workability and strength.

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